

REMARKS

The instant and Final Office Action asserted that the "title of the invention is not descriptive". It required a new title "that is clearly indicative of the invention to which the claims are directed".

The Office Action continued by stating that "It is not seen that the [previous] amendment to the Title overcomes the objection." The Office Action suggested a title such as "--Distributed Compensated Voltage Driver With Feedback--".

It is respectfully submitted that this suggested title is inappropriate inasmuch as it is unnecessarily narrow and/or misdescriptive of the invention. It appears, however, that this title does comport with the Office Action's apparent mischaracterization of the invention. For example, as explained further below, the claim rejections under 35 U.S.C. 112 do not accurately reflect the invention. Accordingly, as also expressed herein above, Applicants' representative respectfully requests a telephonic interview with the Examiner after the RCE is entered but prior to the Examiner undertaking another Office Action in response to this Reply.

To meet the new title requirement, the current title of 'Voltage Compensation with Feedback' was replaced with the new title of --Distributed Voltage Compensation with a Voltage Driver that is Responsive to Feedback--.

It is therefore respectfully requested that the new title requirement be withdrawn.

1 I. THE CLAIM REJECTIONS UNDER 35 U.S.C. 112 ARE
2 UNCLEAR AND INAPPROPRIATE.

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4 A. The Instituted Rejection

5 The Office Action rejected claims 6-9, 25, 26, 28, 30, and 31 under 35
6 U.S.C. 112. Specifically, the Office Action asserted with regard to claim 6 in
7 particular that "there is no support for the 'feedback component', in addition to the
8 structure recited in claim 1. It is clear from the specification that the 'feedback
9 component' is part of the already recited 'voltage driver' of claim 1. Thus, the claim
10 should state this."

11 The Office Action also rejected claims 33-49 under 35 U.S.C. 112.
12 Specifically, the Office Action asserted with regard to claim 33 in particular that
13 "there is no support for the language of lines 4-5. As seen from the specification, the
14 'reference voltage driver' provides the operation recited in lines 4-5 and includes the
15 'feedback receiver'."

1 B. General Remarks

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3 1. No prima facie rejection under 35 U.S.C. 112 has been
4 established by the Office Action because it fails to specify the paragraph of Section
5 112 under which the claims are being rejected. It is noted that Sections 706.03(c)
6 and (d) of the MPEP, and the form paragraphs thereat, stipulate which paragraph of
7 35 U.S.C. 112 is being used as the grounds of a given rejection. (It is impracticable,
8 if not impossible, to respond cogently and concisely to a non-specific Section 112
9 rejection.)

10 It is therefore respectfully requested that the rejections under 35
11 U.S.C. 112 be withdrawn.

12
13 2. No prima facie rejection under 35 U.S.C. 112 has been
14 established by the Office Action because the Office Action fails to cite any support
15 in Applicant's Specification for the assertions in the 35 U.S.C. 112 rejections. These
16 unsubstantiated assertions include "It is clear from the specification..." and "As seen
17 from the specification...". Hence, these rejections are traversed inasmuch as they do
18 not provide any textual or diagrammatic evidence or explanation.

19 Moreover, the Examiner's attention is directed, by way of
20 example but not limitation, to page 8, line 19 for "feedback component 120" and to
21 page 9, line 7 for "feedback receiver 120". Attention is also directed, by way of
22 example but not limitation, to page 6, line 3 for "reference voltage driver 114" and to
23 FIG. 2 generally. These locations of the disclosure of the instant Patent Application
24 controvert the assertions in the 35 U.S.C. 112 rejections.
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1 It is therefore respectfully requested that the rejections under 35
2 U.S.C. 112 be withdrawn.

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4 C. Claim-Specific Remarks

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6 1. Claim 6 et seq.

7 With regard in particular to dependent claim 6 and independent
8 claim 1, the feedback component 120 is not necessarily part of the reference voltage
9 driver 114. This is apparent from the locations of the disclosure to which the
10 Examiner's attention is directed as noted above. Furthermore, feedback functionality
11 and/or effect may optionally be accomplished without requiring a specific feedback
12 component.

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14 2. Claim 33 et seq.

15 With regard in particular to independent claim 33, the feedback
16 component 120 is not necessarily part of the reference voltage driver 114. This is
17 apparent from the locations of the disclosure to which the Examiner's attention is
18 directed as noted above. Furthermore, feedback functionality and/or effect may
19 optionally be accomplished, at least partially, outside the confines of a designated
20 component or defined chip area for reference voltage driver 114.

1 II. THE INSTITUTED CLAIM REJECTIONS UNDER 35 U.S.C.
2 103(a) ARE INAPPOSITE WITH REGARD TO THE LAW AND THE
3 TECHNICAL FACTS.

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5 A. The Instituted Rejection

6 The Office Action rejected claims 1-73 "under 35 U.S.C. 103(a) as
7 being unpatentable over Manning (USPN 6,288,954) in view of Kajigaya et al.
8 (USPN 5,426,616)."

9 On page 3, the Office Action reads, in relevant part, "With respect to
10 claims 1-59, the reference to Manning discloses, in Figs. 1 and 4, a circuit
11 comprising: 'a plurality of memory cells (84)'; and a 'reference voltage driver'
12 (Vref). The reference to Manning discloses the 'reference voltage driver' broadly
13 and thus, does not disclose the specific detail recited therefor. Kajigaya et al.
14 disclose, in Figs. 27 and 37, a specific 'reference voltage driver' providing variable
15 gain with high accuracy. This 'reference voltage driver' is seen to include 'a
16 feedback receiver', 'a register (DEC1 and DEC2)' and a counter (CTRN and
17 CTRB)'."

1 B. General Remarks

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3 1. Neither Manning nor Kajigaya describe or suggest
4 feedback. It is apparent from Fig. 2 of Manning, and the corresponding description
5 thereof, that there is no feedback for the Vrefint GENERATOR 32. It is likewise
6 apparent from Fig. 35 of Kajigaya that there is no (at least) internal feedback in the
7 voltage generation thereof. In fact, the title of Kajigaya is indicative of this inasmuch
8 as it reads "Semiconductor IC device having a voltage conversion circuit which
9 generates *an internal supply voltage having value compensated for external supply*
10 *voltage variations*" (emphasis added).

11 More specifically, it appears that Manning has an "on-board
12 reference-signal generator 32, which in one embodiment is used to internally
13 generate a reference signal Vrefint during testing of the circuit 30" (column 3, lines
14 3-5; Figures 2 and 3) and that Kajigaya et al. has a "a standard voltage generator
15 VLG ... a fuse circuit FC" (column 12, lines 13-21, especially lines 17-18; Figures
16 27, 35, and 37).

1 These generators receive input from external sources. For
2 example, "generator 32" of Manning receives input from "mode logic 34", which
3 receives inputs "digital mode signals M0 and M1" via "terminals 360 and 361"
4 (column 3, lines 20-25; Figures 2 and 3). Also, "generator VLG/fuse circuit FC" of
5 Kajigaya et al. receives as input "VCC", "VRB", "VRN", "TVLK", "PFS0-5", etc.
6 (Figures 27, 35, and 37). No output of "generator 32" of Manning affects its input.
7 Similarly, no output of "generator VLG/fuse circuit FC" of Kajigaya et al. affects its
8 inputs. Furthermore, neither document, either alone or in combination, describes or
9 suggests applying, interrelating, or involving feedback with the inputs and/or outputs
10 of their respective individual or combined generators (assuming a combination is
11 possible).

12 Moreover, the stated approach in the Office Action to
13 combining the two documents involves mere replacement of the voltage generator of
14 Manning with that of Kajigaya. Furthermore, even assuming *arguendo* that there is
15 adequate motivation for this mere replacement, there is no motivation included in the
16 documents or present in the knowledge in the art to suggest anything other than mere
17 replacement. Hence, feedback does not result from a combination of Manning and
18 Kajigaya.

19 Accordingly, it is respectfully requested that the rejections
20 under 35 U.S.C. 103(a) be withdrawn.

1 2. The Office Action neglects to provide any
2 corresponding element for **feedback receiver**.

3 Moreover, it is apparent that no element described or suggested
4 by Manning and/or Kajigaya et a. (either alone or in combination) can correspond to
5 **feedback receiver**. Accordingly, it is respectfully submitted that no prima facie case
6 has been established by the Office Action and that that the rejections under 35 U.S.C.
7 103(a) should be withdrawn.

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9 3. There is insufficient motivation to combine Manning
10 and Kajigaya. Furthermore, even assuming *arguendo* that there is sufficient
11 motivation to combine Manning and Kajigaya, such a combination would not result
12 in the claimed invention.

13 Specific examples of claim elements that have gone
14 unaddressed in previous Office Actions, as well as elements that are neither present
15 in nor would result from a combination of Manning and Kajigaya, are provided
16 below with reference to individual claims.

17 Accordingly, it is respectfully submitted that no prima facie
18 case has been established by the Office Action and that that the rejections under 35
19 U.S.C. 103(a) should be withdrawn.

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1 C. Claim-Specific Remarks

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3 1. *Claim 1 et seq.*

4 With regard to independent claim 1 and associated dependents:

5 The Office Action fails to address **nominal voltage** and does
6 not attempt to draw a correspondence thereto from Manning, Kajigaya, or a
7 combination thereof.

8 The Office Action fails to address wherein the voltage driver
9 is responsive to feedback derived from the distributed voltage to adjust the
10 compensated voltage so that the distributed voltage is approximately equal to
11 a nominal voltage.

12 Moreover, it is respectfully submitted that if the Office
13 Action fails to identify or explain how an item or aspect from the applied art can
14 be asserted to correspond to a particular claimed element (e.g., nominal voltage in
15 claim 1), then the rejection is necessarily deficient with respect to that particular
16 claimed element as well as all other elements that interact with and/or are directly
17 or indirectly responsive to that particular element (e.g., voltage driver in claim 1).

18 This observation is relevant throughout the Claim-Specific Remarks regarding the
19 35 U.S.C. 103(a) rejections.
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1 2. *Claim 17 et seq.*

2 With regard to independent claim 17 and associated
3 dependents:

4 The Office Action fails to address **nominal reference voltage**
5 and does not attempt to draw a correspondence thereto from Manning, Kajigaya, or a
6 combination thereof.

7 The Office Action fails to address wherein the reference
8 voltage driver has a variable gain that increases when the distributed
9 reference voltage is less than a nominal reference voltage and decreases when
10 the distributed reference voltage is greater than the nominal reference
11 voltage.

1 Admittedly, the Office Action does include the following
2 conclusory statement on page 4: "By way of example, Examiner will discuss claim
3 1. Contrary to Applicants remarks, the reference to Manning teaches a 'compensated
4 voltage' that is distributed to 'one or more components', comparators (19₀-18_n and
5 20₀-20_n). And clearly, VL is fed back to the non-inverting input of OA1, via the
6 divider R10-R18, providing negative feedback operation (because Q3 is a PMOS).
7 Due to the negative feedback operation, the gain of the circuit will necessarily
8 increase 'when the distributed reference voltage is less than nominal' and decrease
9 'when the distributed reference voltage is greater than nominal'."

10 It is respectfully submitted that this statement does not establish
11 a (or elucidate a preexisting) obviousness rejection under 35 U.S.C. 103(a). First, the
12 language quoted in the Office Action is not present in claim 1. Second, as noted
13 above, a nominal voltage is not identified. Third, the Office Action does not attempt
14 to explain how voltages at the "input buffers 18₀-18_n and 20₀-20_n" (which are
15 apparently intended to correspond to the distributed reference voltage) of Manning
16 can possibly affect the gain or any other aspect of any voltage generator of Manning,
17 Kajigaya, or a combination thereof. *Fourth, the Office Action does not describe how*
18 *"VL", "OA1", "divider R10-R18", "Q3", etc. correspond to any claimed elements.*
19 It is therefore respectfully submitted that the above-repeated statement from page 4
20 of the Office Action does not present a prima facie rejection of claim 1 or claim 17
21 (or any other claim).

1 3. *Claim 33 et seq.*

2 With regard to independent claim 33 and associated
3 dependents:

4 The Office Action fails to address **nominal reference voltage**
5 and does not attempt to draw a correspondence thereto from Manning, Kajigaya, or a
6 combination thereof.

7 The Office Action fails to address a **feedback receiver that**
8 **evaluates the distributed reference voltage relative to a nominal reference**
9 **voltage to produce a feedback signal.**

10 The Office Action fails to address wherein the **data and**
11 **feedback receivers have similar input characteristics so that said relative**
12 **voltage change in the distributed reference voltage is approximately the same**
13 **at each of the data and feedback receivers.**

14 The Office Action fails to address an **increment/decrement**
15 **component that produces a digital value in response to the feedback signal,**
16 **wherein the increment/decrement component is configured to increment and**
17 **decrement the digital value depending on the relationship of the distributed**
18 **reference voltage and the nominal reference voltage as indicated by the**
19 **feedback signal.**

20 The Office Action fails to address wherein the **reference**
21 **voltage driver has a variable gain that is established by the digital value,**
22 **especially in conjunction with the recitation of the increment/decrement**
23 **component; which is responsive to the feedback signal.**
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1 4. *Claim 43 et seq.*

2 With regard to independent claim 43 and associated
3 dependents:

4 The Office Action fails to address **nominal reference voltage**
5 and does not attempt to draw a correspondence thereto from Manning, Kajigaya, or a
6 combination thereof.

7 The Office Action fails to address **feedback means for**
8 **evaluating the distributed reference voltage relative to a nominal reference**
9 **voltage to produce a feedback signal.**

10 The Office Action fails to address wherein the receiver and
11 **feedback means have similar input characteristics so that said relative voltage**
12 **change in the distributed reference voltage is approximately the same at each of**
13 **the receiver and feedback means.**

14 The Office Action fails to address **gain control means for**
15 **controlling the gain of the driver means in response to the feedback signal so**
16 **that the distributed reference voltage is approximately equal to the nominal**
17 **reference voltage.**

1 5. *Claim 53 et seq.*

2 With regard to independent claim 53 and associated
3 dependents:

4 The Office Action fails to address **nominal reference voltage**
5 and does not attempt to draw a correspondence thereto from Manning, Kajigaya, or a
6 combination thereof.

7 The Office Action fails to address a **feedback receiver that**
8 **evaluates the distributed reference voltage relative to a nominal reference**
9 **voltage to produce a feedback signal.**

10 The Office Action fails to address wherein the data and
11 feedback receivers have similar input characteristics so that said relative
12 voltage change in the distributed reference voltage is approximately the same
13 at each of the data and feedback receivers.

14 The Office Action fails to address wherein the reference
15 voltage driver has a variable gain that is configurable to increase in response to
16 the feedback signal when the distributed reference voltage is less than the
17 nominal reference voltage and to decrease in response to the feedback signal
18 when the distributed reference voltage is greater than the nominal reference
19 voltage.

1 6. *Claim 60 et seq.*

2 With regard to independent claim 60 and associated
3 dependents:

4 The Office Action fails to address **nominal voltage** and does
5 not attempt to draw a correspondence thereto from Manning, Kajigaya, or a
6 combination thereof.

7 The Office Action fails to address **increasing the variable**
8 **gain when the distributed voltage is less than the nominal voltage.**

9 The Office Action fails to address **decreasing the variable**
10 **gain when the distributed voltage is greater than the nominal voltage.**

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12 7. *Claim 63 et seq.*

13 With regard to independent claim 63 and associated
14 dependents:

15 The Office Action fails to address **nominal reference voltage**
16 and does not attempt to draw a correspondence thereto from Manning, Kajigaya, or a
17 combination thereof.

18 The Office Action fails to address **a particular receiver of the**
19 **plurality of receivers capable of evaluating a nominal reference voltage signal**
20 **relative to the distributed reference voltage to produce a feedback signal.**

21 The Office Action fails to address **wherein the reference**
22 **voltage driver is responsive to the feedback signal such that the variable gain**
23 **increases when the distributed reference voltage is less than the nominal**
24 **reference voltage signal and decreases when the distributed reference voltage**
25 **is greater than the nominal reference voltage signal.**

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2 8. *Enumeration of recited claim elements that are not*
3 *addressed in the Office Action is a proper and full response to the instituted*
4 *rejections.*

5 The Office Action asserts on page 4 that "The remarks [from
6 the previous Reply] merely cite a portion of each independent claim, then goes [on]
7 to state that the above combination does not teach such. However, since the above
8 rejection provides for all of the elements recited in the claims, it is seen that
9 Applicant is merely contradicting the rejection without providing any specific reason
10 for the contradiction."

11 It is not feasible to be any more specific and precise with the
12 remarks in a Reply than the specificity and precision of the rejections to which the
13 Reply is responsive without fabricating the rejection. It is respectfully submitted that
14 it is not Applicant's responsibility to fabricate the rejection and that the Remarks
15 herein are at least as precise and specific as the rejections to which they are intended
16 to respond. Again, if the Examiner disagrees, the Examiner is respectfully requested
17 to contact the undersigned for a telephonic Examiner Interview.

18 Accordingly, it is respectfully submitted that the instituted
19 obviousness rejections have been properly and fully traversed, and it is therefore
20 respectfully requested that the 35 U.S.C. 103(a) rejections be withdrawn.
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1 Although each pending dependent claim includes additional element(s)
2 militating toward allowability, it is respectfully submitted that the dependent claims
3 are allowable at least for the reasons given above in connection with their respective
4 independent claims.
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CONCLUSION

It is respectfully submitted that all of claims 1-73 are allowable, and prompt action to that end is hereby requested.

Respectfully Submitted,

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